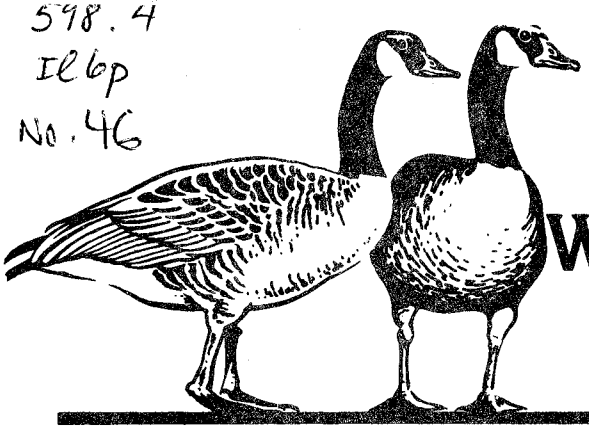
ILLINOIS

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

PRODUCTION NOTE

University of Illinois at
Urbana-Champaign Library
Large-scale Digitization Project, 2007.



PERIODIC REPORT NO. 46
August, 1984

WATERFOWL PROGRAM

ILLINOIS DEPARTMENT OF CONSERVATION
DIVISION OF FISH AND WILDLIFE RESOURCES

WATERFOWL HARVEST AND HUNTER USE AT REND LAKE DURING THE 1983 WATERFOWL SEASON

Deborah Jaques, Waterfowl Technician
Dennis Thornburg, Waterfowl Program Manager

Abstract: Hunters at Rend Lake were required to register and report harvest at all 44 access areas throughout the 1983 season. Stabilized regulations continued in 1983 so that the season ran 50 days from 27 October to 15 December. Point values for ducks were the same as in 1982 except that the black duck was increased to 100 points. For the second consecutive year the goose season was 40 days in length, opening on 22 November and closing on 31 December. Bag limit was again one bird per day. Waterfowl hunters reported a total harvest of 8,270 ducks and 1,856 Canada geese on public hunting areas at Rend Lake in 1983. Duck harvest improved 21 percent and goose harvest improved 67 percent over the 1982 season. Ten out of eleven licensed commercial clubs reported a harvest of 593 geese on private lands around Rend Lake. A total of 13,352 days afield were reported by hunters at Rend Lake. Following the close of the duck season, 2,492 hunters tried for geese during the last two weeks of the goose season. Duck hunter success improved from .57 in 1982 to .76 ducks per trip in 1983. The success rate for hunters who harvested geese both during and after the duck season was .22. This rate increased to .34 following the close of the duck season. The greatest number of ducks (1,918) was reported at the Cottonwood access area, and the greatest goose harvest (179) occurred in the vicinity of the Ken Gray access area. Results of the 1983 Illinois waterfowl hunter questionnaire revealed a harvest of 3,819 geese on private lands and a total harvest of 6,268 geese in Franklin and Jefferson counties. The duck population peaked at Rend Lake in late November at 20,770. In-season goose numbers peaked in late December at 38,000.

Printed by authority of the State of Illinois. 500-9-84
The Dept. of Conservation is an equal opportunity employer.

INTRODUCTION

Waterfowl harvest at Rend Lake has been monitored by some type of system since 1975. The 1983 season was the fifth consecutive season that hunters using Rend Lake public access areas were required to register and report their harvest daily. The registration system was adopted in response to the need for a practical method for determining hunter use and harvest at these areas and has proven to be a reliable monitoring method. On private lands around Rend Lake, only commercial clubs were required to obtain a license and submit daily hunter registration and harvest sheets at the end of the hunting season. Prior to the 1982 season, non-commercial areas were also required to register hunters and report harvest. Information on Canada goose harvest in the surrounding Rend Lake area was again derived from the Illinois waterfowl hunter questionnaire survey. The statewide survey was initiated in 1981 and will continue to be conducted on an annual basis.

The Rend Lake Wildlife Management Area is a cooperative project between the U.S. Army Corps of Engineers and the Illinois Department of Conservation. It consists of approximately 16,000 acres of land and water in Jefferson and Franklin Counties. Implementation of the waterfowl harvest and hunter use survey was partially funded by Pittman-Robertson Projects W-43-R and W-83-D.

A note of thanks is extended to all Division of Lands, Division of Fish and Wildlife Resources, and the U.S. Army Corps of Engineers personnel who assisted in the distribution and collection of hunter registration sheets throughout the 1983 season at Rend Lake. Thanks is also extended to Division of Law Enforcement personnel who enforced the registration regulations. The harvest and hunter use survey would not be possible without the willing assistance of many dedicated people. Finally, a very special note of thanks is extended to all sportsmen who participated in the 1983 season, whose cooperation and efforts to comply to the registration regulation have helped make this project a success. An accurate determination of harvest and hunter use is crucial to the continued evaluation of the waterfowl management program at Rend Lake.

METHODS

Waterfowl harvest and hunter use at all Rend Lake public access areas during the 1983 season was again monitored by a mandatory registration system. Registration boxes were placed at each of the 44 hunter access areas around the lake and management areas. Hunters were required to sign in before hunting and report their daily kill by number and species following each day's hunt. Registration sheets were collected daily, therefore allowing the number of hunters and harvest by species to be tallied for individual access areas and for each day of the season.

Canada goose harvest and hunter activity on private land surrounding Rend Lake was assessed in two ways. For all areas where reimbursement was received for goose hunting privileges, commercial licenses were issued. At these commercial clubs,

hunters were required to register before hunting and report their harvest at the end of the hunt. Registration sheets were then submitted by club owners at the end of the season to the Union County field office for tabulation of harvest and hunter use. Changes in the Wildlife Code eliminated the requirement for licensing and hunter registration on non-commercial (free) areas in 1982. The goose harvest on these areas was therefore determined from a statewide waterfowl hunter questionnaire survey conducted during the 1983 season. Questionnaires were mailed to 1,113 randomly selected waterfowl hunters in Illinois. Eighty-three percent of the questionnaires were returned and the resulting data were used to estimate the number of waterfowl hunters and total Canada goose harvest in the Rend Lake area of Franklin and Jefferson Counties.

Canada goose population data were gathered from aerial inventories scheduled at weekly intervals. Inclement weather in December prevented several censuses from being conducted. Population counts were made by biologists with the Illinois Department of Conservation using the DOC Cessna 210 or Cessna 337. Aerial duck inventories were conducted bi-weekly by Robert Crompton of the Illinois Natural History Survey.

RESULTS AND DISCUSSION

The 1983 duck season opened in the southern zone on 27 October and closed 50 days later on 15 December. The 40-day goose season opened during the duck season on 14 November and extended to 31 December. Temperatures were mild during the fall and early winter, and waterfowl populations were low until late November. Hunter success for ducks, however, was good. An influx of geese corresponding with extremely cold weather in December resulted in a successful season for goose hunters as well.

Hunter Use

Waterfowl hunters reported a total of 13,352 trips to public areas at Rend Lake during the 1983 season. This was 1,330 fewer than the 14,682 hunter-trips reported at Rend Lake in 1982 and represents a decline of 10 percent when compared to the average number of hunter-trips recorded over the past 5 years. 10,860 hunter-trips were made to Rend Lake public hunting areas during the 1983 duck season and an additional 2,492 trips were reported by goose hunters following the close of the duck season.

During the 50-day duck season, the average number of waterfowl hunters per day was 217. This was down 9 percent from the daily average of 239 hunters in 1982. Heaviest hunting pressure occurred during the week 17-26 November when 2,455 waterfowl hunters visited Rend Lake. In 1982, heaviest hunting pressure also occurred during the November holiday season. Aside from a relatively slow period during the second week in November, hunting pressure remained very constant throughout the 1983 duck season (Table 1). Public access areas receiving the greatest use included Cottonwood (1,356 hunters) and Bonnie Church Camp (1,050 hunters). These two areas were also found to be the most heavily hunted areas in 1982. The Silo access area ranked third with 836 hunter-trips reported

for 1983.

The number of hunters at Rend Lake decreased following the close of the duck season. After 15 December, goose hunters reported an average of 155 trips per day to the Rend Lake public hunting areas. Consistent with the decline in hunters for the 1983 duck season, this was down 9 percent from the daily average of 170 goose hunters per day following the close of the 1982 duck season. The public area receiving the most hunters after the close of the duck season in 1983 was Ken Gray, where 405 hunter-trips were reported during the 15-day period.

Of the 11 licensed clubs in the Rend Lake area, all but 1 complied with regulations and turned in their registration sheets at the close of the season. These 10 clubs reported a total of 1,428 hunter-trips during the 1983 season. In 1981, just prior to the major changes made for licensing clubs, over 4,000 hunter-trips were reported on private clubs. The Illinois waterfowl hunter questionnaire survey revealed that during the 1983 season an estimated 5,100 goose hunters spent 26,500 days afield in the Rend Lake area in Franklin and Jefferson Counties.

Harvest

A total of 8,270 ducks and 1,856 Canada geese were harvested on the Rend Lake public hunting areas during the 1983 waterfowl season. Duck harvest increased 21 percent from the 1982 harvest of 6,845. Peak harvest occurred during the period 28 October to 6 November, when 1,937 ducks were taken. This corresponded almost exactly in time and number with the peak duck harvest of 1982. Mallards comprised 66 percent of the duck harvest with a total of 5,447 taken in 1983. This represented an increase of 24 percent when compared with the 4,390 mallards harvested in 1982, and a 26 percent increase over the past 5-year average. Table 2 compares the 1983 waterfowl harvest by species with the previous 7 years. Wood ducks, for the third consecutive year, ranked second in the harvest. Waterfowl harvest on each public hunting area is shown in Table 3. As in 1982, hunters utilizing the Cottonwood access area reported the greatest harvest of ducks with a total take of 1,918. Bonnie Church Camp again followed with a harvest of 1,238 ducks, 83 percent of which were mallards.

The harvest of 1,856 Canada geese during the 1983 season represented a substantial increase over the 1,109 geese taken in 1982, when the same bag limit and season length were in effect. The majority of the goose harvest occurred during the combined duck/goose season when 1,019 geese were taken. 814 Canada geese were harvested on public areas after the close of the duck season. Ken Gray was the public access area reporting the greatest goose harvest (179 geese) followed by Ina (162 geese) and Turnip Patch (152 geese).

The 10 licensed clubs in the Rend Lake area that sent in their registers reported a total harvest of 593 geese. This was over twice the harvest of 243 geese reported by 12 commercial clubs in 1982. The 1983 Illinois waterfowl hunter questionnaire survey revealed that an estimated total of 6,268 Canada geese were harvested in the Rend Lake area. This was a 51 percent increase over the 1982 estimate of 4,140 geese. The results of the 1983 harvest estimate indicate

that 3,819 unreported geese were taken on private lands in the surrounding Franklin and Jefferson County area.

Hunter Success

Waterfowl hunters at Rend Lake enjoyed a high success rate of .76 ducks per trip during the 1983 duck season. Hunters on opening day experienced an average success rate higher than has been recorded for the past 5 years with 1.5 ducks per hunter. Success gradually declined throughout the season, however the low of one duck for every two hunters in the last report period was still respectable and is close to the average daily success rate of .57 for duck hunters throughout the 1982 season.

After the close of the duck season, the success rate for goose hunters averaged .34 geese per hunter-trip. When geese harvested during the duck season are included, the success rate drops to .22. These rates compare favorably to the 1982 success rates of .08 geese per hunter for the entire season and .18 geese per trip following the close of the duck season. Table 4 compares success rates at Rend Lake since 1974.

Private commercial clubs in the Rend Lake vicinity reported a high success rate of .42 geese per hunter-trip. The overall success rate calculated from the hunter questionnaire survey data was .24 geese per trip. After two consecutive years of poor success rates for Rend Lake goose hunters, data from all sources indicate a successful season for waterfowl hunters throughout Franklin and Jefferson Counties in 1983.

Population Status

The duck population at Rend Lake peaked at 20,770 in late November, 1983 (Table 5). This figure was 30 percent higher than the 1982 peak of 15,925 ducks counted during the second week of November. Inventories conducted from October through mid-November 1983, however, revealed fewer ducks than corresponding inventories in 1982. The late winter duck populations at Rend Lake were unusually low. Inclement weather prevented aerial inventories in late December, however, freezing conditions and a lack of food and open water undoubtedly resulted in a dispersal of waterfowl from the region. Waterfowl may have dispersed from the area in response to depleted food resources.

The in-season peak Canada goose population at Rend Lake in 1983 (38,000) was recorded on 20 December. Inventory figures jumped dramatically from 5,000 geese in late November to 38,000 by the time of the next IDOC flight. Inclement weather conditions prevented aerial goose censuses in early December. However, ground counts conducted by researchers from the Southern Illinois University Cooperative Wildlife Research Lab suggest that the population might have actually peaked in mid-December with approximately 80,000 geese. Severe weather in early December, 1983 forced a major migration of Canada geese from Wisconsin while the hunting season in southern Illinois was less than half over. During the winter of 1982-83, weather remained mild throughout the flyway and the late migration of geese to Rend Lake was practically non-existent. The 1982 in-season peak was

24,000 in mid-December and geese built up to a high of 35,000 in mid-January, 1983. During the 1983-84 season, aerial inventories revealed that geese reached a peak of 44,000 in early February. This represented a 26 percent increase over the peak population recorded by IDOC during the winter of 1982-83. While this increase may appear encouraging in comparison with the previous year, it is probably more a reflection of the severity of the winter. Even so, it still does not approach the 120,000 geese counted during peak occupation in 1981 (Table 6, Fig. 1).

Canada geese in the 1983 harvest throughout the Mississippi Flyway showed a very high ratio of adults to immatures, indication that production in the spring of 1983 may have been the worst in recorded history. Although the Rend Lake Canada goose population was low compared to 1981, another factor that may have accounted for the relatively low inventory figures was the limited food availability at Rend Lake during the winter of 1983-84. Crops were planted late due to flooding conditions in the spring of 1983 and severe drought in late summer resulted in reduced yields. A shortage of food on the area, combined with little open water in late December, forced geese to disperse from the area.

CONCLUSIONS

Although the duck population at Rend Lake was below average throughout much of the 1983 hunting season, when the peak did occur it was higher than the peak inventory of 1982. A slight increase in duck numbers in the 1983 fall flight was forecast due to improved habitat conditions on the breeding grounds in prairie Canada following three years of severe drought. Highest success rates for waterfowl hunters at Rend Lake, however, occurred early in the season while duck numbers were relatively low. This suggests that factors other than population size, such as local weather conditions and food availability, played an important role in the 1983 harvest.

The severe weather which caused geese to migrate from Wisconsin to Rend Lake during the hunting season saved goose hunters from experiencing a season similar to 1982. While migrational patterns differed, the Mississippi Valley Population is believed to be at about the same low level as it was in 1982. The prediction of a near bust in MVP goose production in the spring of 1983 was confirmed by examination of age ratios in the harvest throughout the flyway. Although, the proportion of adults in the flock was extremely high, geese were forced to fly off the refuge in search of food, thereby increasing their vulnerability and the success rate for hunters.

Hunter pressure declined further from 1982. Factors likely contributing to this second year of a downward trend in hunter use include the shortened goose season, a reduced bag limit on Canada geese, and the below average hunter success experienced from 1980-1982.

REFERENCES

Anderson, W.L. 1983. Illinois waterfowl harvest, hunter activity and attitudes toward shooting hours, lead poisoning and steel shot in 1981. Illinois Dept. of Conservation, Waterfowl Program Periodic Rpt. No. 39. 14pp.

Anderson, W.L. 1984. "Preliminary results of the 1983 Illinois waterfowl hunting questionnaire". Illinois Dept. of Conservation, Waterfowl Program. 4pp.

Thornburg, D.D. and B.L. Estel. 1983. Waterfowl harvest and hunter use at Rend Lake during the 1980 and 1981 seasons. Illinois Dept. of Conservation, Waterfowl Program, Periodic Rpt. No. 40. 10pp.

Thornburg, D.D. and B.L. Estel. 1983. Waterfowl harvest and hunter use at Rend Lake during the 1982 waterfowl season. Illinois Dept. of Conservation, Waterfowl Program Periodic Rpt. No. 43. 15pp.

Table 1. Waterfowl harvest and hunter activity at Rend Lake, Illinois during the 1983 waterfowl season.

Date	No. of Hunters	Harvest			Hunter Success	
		Mallard	Total	Canada Geese	Duck	Geese
Oct. 27	494	232	736	(1)	1.5	---
Oct. 28-Nov. 6	2,035	820	1,937	(2)	.95	---
Nov. 7-Nov. 16	1,601	935	1,436	---	.90	---
Nov. 17-Nov. 26*	2,455	1,464	1,745	117	.71	.05
Nov. 27-Dec. 6	2,136	1,057	1,333	225	.62	.11
Dec. 7-Dec. 16**	2,232	939	1,083	697	.49	.31
Dec. 17-Dec. 26	1,256	-----	-----	456	---	.36
Dec. 27-Dec. 31	1,143	-----	-----	358	---	.31
Season Totals	13,352	5,447	8,270	1,856	.76	.22

* First day of goose season, November 22.
** Last day of duck season, December 15.

Table 2. Harvest of ducks by species at Rend Lake, (Southern Zone), Illinois, 1976 through 1983. 1976-1978 data from bag checks conducted daily during the hunting season. 1979-1983 data from hunter registration reports.

Species	1976	1977	1978	1979	1980	1981	1982	1983
Dabbling Ducks								
Mallard	4,618	5,272	5,531	3,488	3,727	4,415	4,390	5,447
Black duck	174	157	183	115	127	180	222	147
Gadwall	274	703	611	334	291	366	335	395
American Wigeon	80	293	351	196	134	205	283	249
Green-winged teal	1,112	98	412	286	414	146	247	321
Blue-winged teal	108	78	618	47	47	66	174	102
Northern Shoveler	33	98	91	82	95	34	74	105
Pintail	93	195	183	81	83	80	216	118
Wood Duck	455	1,504	948	302	388	476	537	734
Total	6,947	8,398	8,928	4,931	5,306	5,968	6,478	7,618
Diving Ducks								
Redhead	0	0	15	71	44	47	31	65
Canvasback	53	0	31	46	39	17	32	53
Scaup	274	175	214	149	94	112	117	200
Ring-necked duck	20	114	92	103	114	80	108	237
Common Goldeneye	73	17	31	0	0	4	0	1
Bufflehead	0	0	76	61	54	20	34	36
Ruddy duck	0	0	31	29	0	21	45	57
Total	420	306	490	459	345	301	367	649
Mergansers	47	44	61	2	0	14	0	4
ALL SPECIES	7,414	8,748	9,060	5,435	5,651	6,283	6,845	8,271

* Slight differences in harvest figures from Table 1 represent differences in treatment of data.

Table 3. Waterfowl harvest and hunter use on public hunting areas at Rend Lake, Illinois for the 1983 duck season.[a]

NAME OF PUBLIC ACCESS AREA	TOTAL HUNTERS	TOTAL HARVEST		
		MALLARDS	DUCKS	C. GEESE
Balbinos	0	0	0	0
Bonnie Church Camp	1,050	1,028	1,238	16
Bonnie Dam	265	164	281	50
Bonnie South	435	90	151	50
Buck Creek	521	138	346	46
Casey Fork & Marina	320	89	123	101
Casey Fork Dam	263	189	275	28
Casey Fork West	291	129	298	0
Casey Fork North	3	0	0	0
Casey Fork South	37	4	6	5
Cottonwood	1,356	1,397	1,918	63
County Line	116	6	16	11
Crossroads	15	1	1	0
Dam West	52	7	64	0
Dareville	768	327	593	33
Elk Prairie	96	32	52	10
All Gun Creek	541	393	466	87
Hamilton Branch	9	2	3	0
Honkers Point	342	32	54	48
Ina	225	17	29	31
Ken Gray	91	5	9	15
Lambrusco	173	2	3	33
Lone Cedar	0	0	0	0
Lone Pine	27	6	19	2
Mine 21	69	3	8	9
Muddy North	9	1	9	0
Muddy South	0	0	0	0
Pin Oak Flats	116	37	51	0
RLCD	166	69	98	49
Sail Boat Harbor	38	14	22	5
Silo	836	274	556	9
Turnip Patch	633	273	377	149
Waltonville East	560	224	343	0
Waltonville Dam	260	106	159	13
Waltonville (others)	31	6	16	0
Ward Branch	248	54	110	32
Nason North	70	32	68	0
Nason South	187	113	153	36
Wayne Fitzgerald	12	1	4	2
Whistling Wings	564	155	313	86
Bluegill Hole	5	0	0	0
Ryder Branch	25	6	12	0
River Road	29	17	26	0
N. Sandusky	4	0	1	0
Misc.	2	0	0	0
Totals	10,860	5,443	8,271	1,019

a. Does not include hunters and harvest for the remainder of the goose season after the close of duck season.

Table 4. Waterfowl harvest and hunter success on public hunting areas of Rend Lake, Illinois, 1974-1983.

Year	No. of Hunters	Harvest		Hunter Success	
		Ducks	Geese	Ducks	Geese
1974	8,485	7,331	a	.86	a
1975	6,428	6,878	1,710	1.07	.58[b]
1976	6,555	7,414	2,017	1.13	.21[b]
1977	8,377	8,748	1,630	1.04	.19
1978	12,622	9,060	4,604	.78	.36
1979	12,978	5,375	1,917	.52	.15
1980	16,134	5,493	3,508	.39	.22
1981	17,873	6,285	2,827	.46	.16
1982	14,682	6,845	1,109	.57	.08
1983	13,352	8,270	1,856	.76	.22[c]

[a] No survey conducted

[b] Last 20 days of goose season after close of duck season.

[c] .34 last 15 days of goose season after close of duck season

Table 5. Number of ducks counted during aerial inventories at Rend Lake, 1978-1983. Data from the Illinois Natural History Survey.

Area and Year	10/15-20	10/25-11/1	11/8-15	11/25-12/1	12/10-15	12/20-1/1	1/5-1/10
Rend Lake							
1978		9,350	15,180	19,185	11,125		965
1979	1,255	11,080	26,460	27,615	13,680		15,550
1980	4,720	4,710	7,505	3,125	1,275	1,300	1,050
1981		29,300	15,430	15,425	25,765	8,955	1,480
1982	2,605	6,765	15,925		10,840	8,245	2,715
1983		4,945	10,915	20,770			785

Table 6. Canada goose numbers at Rend Lake through the fall and winter of 1981-83.

1981		1982		1983	
Date	No. of Geese	Date	No. of Geese	Date	No. of Geese
10-13-81	1,500	10-12-82	3,000	10-31-83	7,000
10-19-81	3,000	10-18-82	3,000	11-07-83	8,000
10-27-81	8,000	10-25-82	3,000	11-14-83	3,500
11-03-81	10,000	11-01-82	7,000	11-21-83	5,000
11-17-81	15,000	11-08-82	12,000	12-20-83	38,000
12-02-81	18,000	11-15-82	8,000	01-09-84	34,000
12-07-81	17,000	11-24-82	11,000	01-31-84	35,000
12-14-81	16,000	11-29-82	14,000	02-07-84	44,000
01-07-82	110,000	12-06-82	14,000	02-14-84	12,000
01-18-82	120,000	12-13-82	24,000		
01-29-82	110,000	12-20-82	22,000		
02-11-82	4,000	01-03-83	18,000		
02-22-82	75,000	01-17-83	35,000		

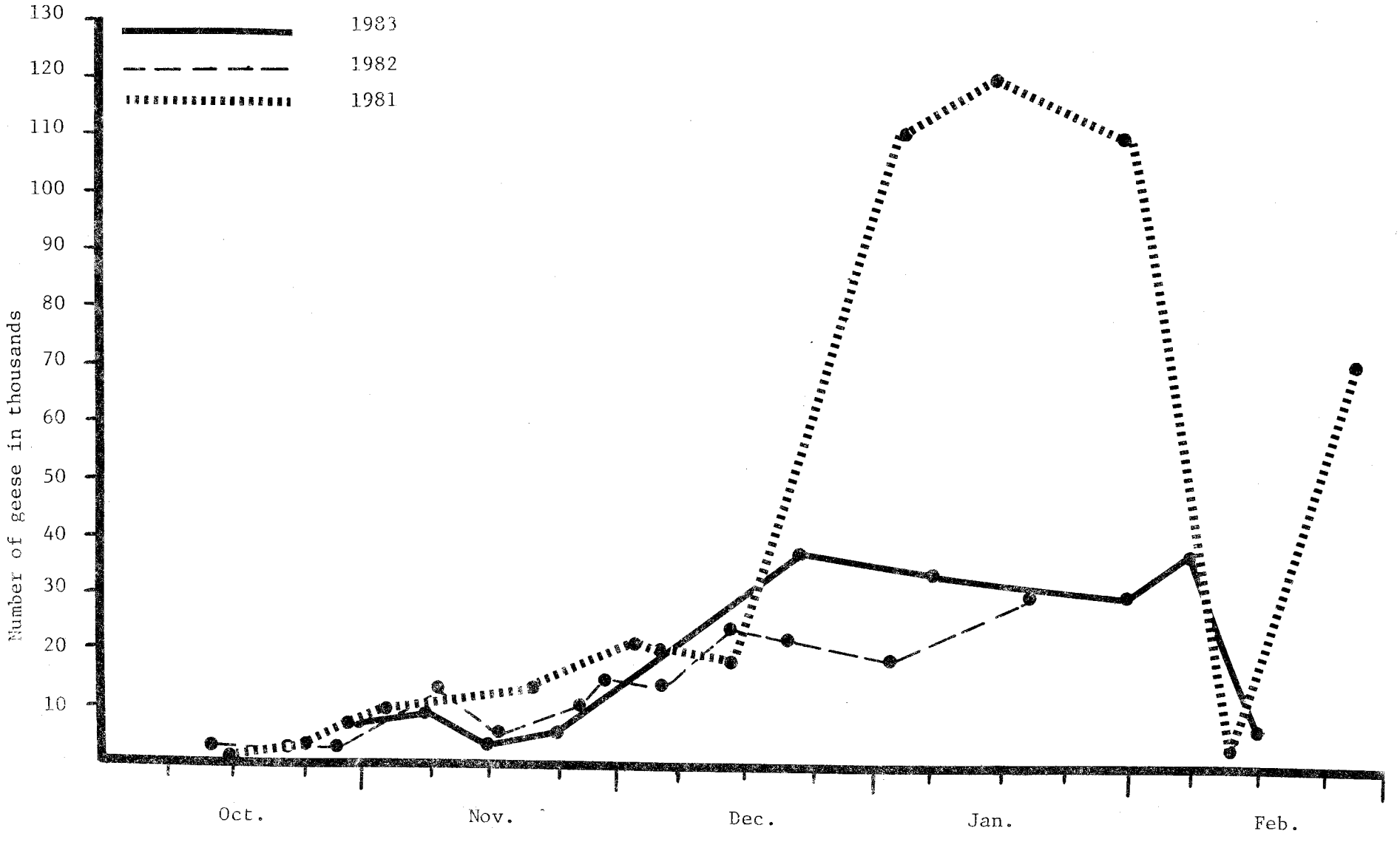


Figure 1. Numbers of Canada geese at Rend Lake during fall and winter, 1981-82 thru 1983-84.